

WHAT IS CLAIMED IS:

1. An image forming device comprising:

an image carrier which holds a toner image formed by developing;

a contact transfer body which is arranged so as to contact with a transfer area of the image carrier;

a transfer bias application means which applies a transfer bias to the contact transfer body for transferring the toner image on the image carrier to a recording paper;

a transfer body cleaning means which applies a transfer cleaning bias whose polarity is inverted from that of the transfer bias to the contact transfer body for performing a cleaning operation for a toner which is attached or remained on the contact transfer body, the transfer body cleaning means comprising:

a transfer body resistance detecting section which detects and outputs a value of an electrical resistance of the contact transfer body; and

a cleaning bias control section which changes an applying time of the transfer cleaning bias based on a detection output signal from the transfer body resistance detecting section.

2. The image forming device according to claim 1, wherein the transfer bias application means is constituted to optimize a voltage of the transfer bias based on the value of the electrical resistance of the contact transfer body and the transfer body resistance detecting section of the transfer body cleaning means is used as a part of the transfer bias application means.

3. The image forming device according to claim 1, wherein the cleaning bias control section varies the applying time of the transfer cleaning bias based on a size judgment signal for the recording paper in addition to based on the detection output signal from the transfer body resistance detecting section.

4. The image forming device according to claim 1, wherein the contact transfer body is formed by using material of ionic conductivity.

5. The image forming device according to claim 1, further comprising a reference value which is set in the cleaning bias control section for the detection output signal from the transfer body resistance detecting section so as to correspond to humidity environment, wherein an applying time of the transfer cleaning bias is changed according to a large/small comparison with the reference value.

6. The image forming device according to claim 1, wherein the cleaning bias control section is constituted such that an applying time of an electrifying bias is changed at the time of a cleaning operation of a primary electrifying bias control means for electrifying a surface of the image carrier.